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EXAMINER

ZIMMERMAN, GLENN

ART UNIT PAPER NUMBER

2879

DATE MAILED: 08 07 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/749,727

Applicant(s)

ANDO, YOICHI

Examiner

Glenn Zimmerman

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id

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-46 is/are allowed.
- 6) ☒ Claim(s) 47, 49, 53 and 54 is/are rejected.
- 7) ☒ Claim(s) See Continuation Sheet is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 15 May 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other

Continuation of Disposition of Claims: Claims objected to are 48, 50/48, 51/48, 52/51/48, 50/49, 51/49, 52/51/49, 50/47, 51/47, 52/51/47, 55/54, 56/54, 57/56/54, 55/53, 56/53 and 57/56/53.

## DETAILED ACTION

### *Response to Amendment*

Amendment, filed on May 15, 2003, has been entered and acknowledged by the examiner.

### *Drawings*

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on May 15, 2003 have been approved.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 47, 49, 53 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Mougin et al. U.S. Patent 5,903,108.

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Regarding claims 47 and 53 and 54, Mougin et al. disclose an image-forming apparatus comprising:

- (A) a first substrate (**glass substrate ref. 10**);
  - (B) a second substrate (**glass substrate Fig. 3 ref. 6**) arranged in an opposing and spaced relation to the first substrate;
  - (C) a support frame (**frame ref. 14'**) arranged between the first and second substrates to surround a space defined between a principal surface of the first substrate and a principal surface of the second substrate for holding the space in a depressurized condition;
  - (D) a plurality of electron-emitting devices (**cathode ref. 1**) arrayed on the principal surface of the first substrate facing the space;
  - (E) an image-forming member (**active area Fig. 3 ref. 20**) arranged on the principal surface of the second substrate facing the space;
  - (F) spacers (**col. 2 lines 14-15**) disposed in the space for holding a spacing between the first and second substrates; and
  - (G) a conductive film (**electron collection ring ref. 21; col. 7 line 61**) arranged on the principal surface of the second substrate facing the space, surrounding the image-forming member and spaced from (**col. 5 line 48**) the image forming member;
- wherein the conductive film is in the form of a closed loop (**Fig. 3 ref. 6**), and the conductive film is supplied with a potential (**col. 5 lines 42-46 and 60-62**) lower than that applied to the image forming member.

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Regarding claim 49, Mougin et al. disclose an image-forming apparatus according to claim 47, wherein the potential of the conductive film is substantially ground potential (**col. 5 lines 60-62**).

Claim 53 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Westphal U.S. Patent 5,945,969.

Regarding claim 53, Westphal discloses a substrate structure having an image-forming member to be used for an image forming apparatus comprising:

(A) a substrate having a principal surface (**soda-lime glass substrate Fig. 3 ref. 24**);

(B) an image-forming member (**conductive layer ref. 25**) having an outer periphery, arranged on the principal surface of the substrate; and

(C) a conductive film (**guard ring ref. 40**) arranged on the principal surface of the substrate (**col. 3 lines 3-8 and 15-20**), surrounding the image-forming member and spaced from (**Fig. 3 ref. 24**) the image-forming member;

wherein the conductive film is a closed loop (**col. 3 lines 5-6**).

Regarding claim 54, Westphal discloses a substrate structure according to claim 53, wherein the conductive film completely surrounds the image-forming member (**guard ring Fig. 3 ref. 40**).

#### ***Allowable Subject Matter***

Claims 1-46 are allowed.

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Claims 48, 50/48, 51/48, 52/51/48, 50/49, 51/49, 52/51/49, 50/47, 51/47, 52/51/47, 55/54, 56/54, 57/56/54, 55/53, 56/53 and 57/56/53 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 48, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an image-forming apparatus including the combination of all the limitations as set forth in claim 48, and specifically wherein the potential of the conductive film is substantially the same as that applied to the electron-emitting devices could not be found elsewhere in prior art.

Regarding claims 50/48, 51/48 and 52/51/48, claims 50/48, 51/48 and 52/51/48 are allowed for the reasons given in claim 48, because of their dependency status on claim 48.

Regarding claim 50/49, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an image-forming apparatus including the combination of all the limitations as set forth in claim 50/49, and specifically wherein the conductive film and the image-forming member are electrically connected to each other through another conductive film having a higher sheet resistance than that of the conductive film could not be found elsewhere in prior art.

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Regarding claim 51/49, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an image-forming apparatus including the combination of all the limitations as set forth in claim 51/49, and specifically wherein a surface region of the second substrate between the image-forming member and the conductive film is covered with a further conductive film, and the conductive film and the image-forming member are electrically connected to each other through the further conductive film could not be found elsewhere in prior art.

Regarding claim 52/51/49, claim 52/51/49 is allowed for the reasons given in claim 51/49, because of its dependency status on claim 51/49.

Regarding claim 50/47, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an image-forming apparatus including the combination of all the limitations as set forth in claim 50/47, and specifically wherein the conductive film and the image-forming member are electrically connected to each other through another conductive film having a higher sheet resistance than that of the conductive film could not be found elsewhere in prior art.

Regarding claim 51/47, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests an image-forming apparatus including the combination of all the limitations as set forth in claim 51/49, and specifically wherein a surface region of the second substrate between the image-forming member and the conductive film is covered with a further conductive film, and the conductive film and the image-forming member are electrically connected to each other through the further conductive film could not be found elsewhere in prior art.



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Regarding claim 52/51/47, claim 52/51/47 is allowed for the reasons given in claim 51/47, because of its dependency status on claim 51/47.

Regarding claim 55/54, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a substrate structure having an image-forming member including the combination of all the limitations as set forth in claim 55/54, and specifically wherein the conductive film and the image-forming member are electrically connected to each other through a further conductive film having a higher sheet resistance than that of the conductive film could not be found elsewhere in prior art.

Regarding claim 56/54, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a substrate structure having an image-forming member including the combination of all the limitations as set forth in claim 56/54, and specifically the conductive film and the image-forming member are electrically connected to each other through the further conductive film and wherein a surface region of the substrate between the image-forming member and the conductive film is covered with a further conductive film could not be found elsewhere in prior art.

Regarding claim 57/56/54, claim 57/56/54 is allowed for the reasons given in claim 56/54, because of its dependency status on claim 56/54.

Regarding claim 55/53, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a substrate structure having an image-forming member including the combination of all the limitations as set

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forth in claim 55/53, and specifically wherein the conductive film and the image-forming member are electrically connected to each other through a further conductive film having a higher sheet resistance than that of the conductive film could not be found elsewhere in prior art.

Regarding claim 56/53, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a substrate structure having an image-forming member including the combination of all the limitations as set forth in claim 56/53, and specifically the conductive film and the image-forming member are electrically connected to each other through the further conductive film and wherein a surface region of the substrate between the image-forming member and the conductive film is covered with a further conductive film could not be found elsewhere in prior art.

Regarding claim 57/56/53, claim 57/56/53 is allowed for the reasons given in claim 56/53, because of its dependency status on claim 56/53.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (703) 308-8991. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is n/a.



Glenn Zimmerman  
July 17, 2003



ASHOK PATEL  
PRIMARY EXAMINER